

Amendments to the Claims:

1. (currently amended) A car rental system comprising:

5 a fleet of cars, each of which is operable only when a valid digital key is
presented to the car, and each of said fleet of cars has a means to invalidate a digital key;
and

a management system for handling reservation and car return, said management
system including:

10 a key generation system for generating digital keys for renters of the car rental
system;

B1
a key return system for processing digital keys returned by ~~renters~~, renters,
wherein there exists no data communication link between the fleet of cars and the
management system.

15 2. (currently amended) The system in claim 1, further comprising a parking lot guarded
by a security gate, said fleet of cars being parked ~~with~~ within confines of said parking lot
when not rented by a renter of the car rental system, said security gate only opening when
a valid digital pass is presented by a renter of the car rental system.

20 3. (original) The system in claim 1, wherein the management system is accessed by a
prospective renter over a network and the prospective renter is given a digital key to
operate a particular car and a digital pass to open the gate of the parking lot where said
particular car is parked, after said prospective renter completes a reservation for said
particular car, said digital key and digital pass being effective starting from the time
25 specified by said reservation.

4. (original) The system in claim 3, wherein the prospective renter accesses the
management system at a kiosk located in the parking lot where the particular car is
parked.

5. (original) The system in claim 3, wherein the prospective renter accesses the management system over the Internet.

6. (original) The system in claim 3, wherein the key generation system stores a digital
5 key on a storage device provided by a prospective renter.

7. (original) The system in claim 6, wherein the storage device is a smart card.

8. (original) The system in claim 6, wherein the digital key comprises car and user
10 identification (ID) signed by the management system to authenticate the digital key.

9. (original) The system in claim 1, wherein a renter of a car invalidates a valid digital key upon returning a car to the car rental system and presents an invalidated digital key to the key return system to complete a car return.

15 10. (original) The system in claim 9, wherein the invalidation of a valid digital key includes storing car status information relevant to computing by the key return system a receipt for the renter.

20 11. (currently amended) A computer implemented method for operating a car rental system comprising the steps of:

accessing a reservation server by a prospective car renter to reserve a car;
authenticating the prospective car renter by the reservation server and, upon the reservation server successfully authenticating the user, prompting the prospective car renter for the date, time, and location for pickup and return, and the type of car;
25 checking by the reservation server an availability of a requested car and, if a car is available, creating by the reservation server a digital key by car and user information with a digital signature of the reservation server; and
downloading the digital key to a portable storage device, the portable storage
30 device being used to gain access to a rental car. car without communication between the rental car and the reservation server.

12. (original) The method in claim 11, wherein the step of accessing the reservation server is performed via a network.

5 13. (original) The method in claim 12, wherein the network is the Internet.

14. (original) The method in claim 11, wherein the step of authenticating a prospective car renter includes the steps of:

10 prompting the prospective car renter to enter a personal identification number (PIN); and

 comparing the entered PIN with a valid PIN for the prospective car renter.

B
15 15. (original) The method of claim 11, wherein the step of creating a digital key comprises the steps of:

15 computing a hash of the car renter's valid PIN;
 combining car and renter identification with the hashed PIN; and
 digitally signing the combined information by said reservation server.

16. (original) The method in claim 11, further comprising the steps of:

20 inserting the portable storage device by a car renter into a slot for receiving the portable storage device in a rented car;

 upon detecting the portable storage device inserted into the slot, obtaining by an access controller installed in the rented car the digital key stored on the portable storage device and checking by the access controller whether the digital key is valid and
25 verifying the signature on the digital key;

 if the digital key is valid and the signature is verified, the access controller then prompting the car renter to enter his or her identification and checking for correctness of the car renter's identification; and

30 if the enter identification for the car renter matches a correct identification on the portable storage device, the access controller activating instruments of the car which the car renter is authorized to have access to.

17. (original) The method in claim 16, further comprising the steps of:

upon receiving a car renter's request to return a car, prompting the car renter to insert his or her portable storage device into the slot for the portable storage device;

5 obtaining by the access controller car status information and car identification;

creating by the access controller a return packet by combining car status information and the current digital key;

signing the return packet by the access controller, appending the car identification to the signed return packet, and saving the signed return packet into the portable storage

10 device; and

invalidating by the access controller a current digital key.

18. (original) The method in claim 17, further comprising the steps of:

upon receiving a car renter's request to return a car, retrieving the return packet

15 from the portable storage device;

verifying a signature on the return packet; and

updating the car status and printing a receipt for the car renter.

19. (original) The method in claim 11, wherein the portable storage device is a smart

20 card.

B2
25
20. (new claim) The system in claim 1, wherein each of said fleet of cars has a storage device for storing a record of the digital key.